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Walden University

College of Nursing

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Marcia Miller

has been found to be complete and satisfactory in all respects,
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the review committee have been made.

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Walden University
2021

Abstract

Clinical Practice Client Education Guideline for Early Detection of Thyroid Cancer

by

Marcia M. Miller

MSN, Walden University, 2013

BSN, Brock University, 2011

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

May 2021

Abstract

Thyroid cancer (TC) incidences over the last decade have increased significantly. The practice problem addressed in this project was nurses' lack of knowledge on how to perform or teach clients how to perform self-exams of the neck region for early detection of TC. This lack of knowledge limits the nurses' ability to properly educate their clients about TC and recognizing when to seek medical interventions. The purpose of this project was to develop of an evidence-based, clinical practice client education guideline (CPCEG), based on an in-depth literature review, to address the nurses' lack of knowledge and enable clients to engage in self-care practices in the detection of thyroid abnormalities. The framework used to guide this doctoral project was the Appraisal of Guidelines for Research and Evaluation (AGREE II) tool, a reliable and valid tool, to appraise clinical practice guidelines (CPG) for quality. Results from three content experts using the AGREE II tool indicated the overall quality of the CPCEG was acceptable and applicable with an AGREE II mean score of 79%. The area of lowest quality was in the domain of editorial independence (AGREE II score 45%) evaluating the methodological quality, management of conflicts of interest, and details of CPG implementation and monitoring whereas the strongest domains were related to scope and purpose (98%) and clarity of presentation (98%). The editorial independence will be more fully discussed in future works. This study enhances social change by addressing the gap in practice and demonstrating that a tool can be developed to better prepare nurses to teach self-exam methods, which will better prepare patients to participate in self-care.

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Dedication

I would like to dedicate this doctoral project to my three amazing children Fabien Alexis, Felicia Anita, and Gordon Derek Miller: All three of you have been the best part of me to support me as I journey through this terminal degree. Life is made up of special moments, moments of joy, or of sorrow, of great good fortune, incredible thoughtfulness, and moments I will never forget, that impact an entire lifetime, moments I will forever treasure. My dear friend Pauline Lambert who has supported me on this journey, I thank you a thousand times over for praying with me to accomplish this doctoral degree. You are a true friend. Finally, to my dear sister Juliette Edwards who passed on July 2016, you are truly missed.

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I would like to express my gratitude to my parents, now deceased, for instilling in me values of what it means to attain higher learning although they did not have the chance of attending school. My sincere thanks to Nancy Lauer (International advisor), who introduced me to the world of virtual learning. Dr. Susan Hayden, my DNP faculty mentor, words cannot describe the gratitude shown towards me during my struggles, your leadership, support, and encouragement. I truly felt you wanted me to succeed.

I would like to thank my family, friends, Walden faculty, and co-workers who have offered support, guidance, and a listening ear for me during this journey. Words again, cannot even express how needed and helpful that was. Thank you!

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Section 1: Nature of the Project

Introduction

Thyroid cancer (TC) is one of the most common endocrine malignancies, accounting for approximately 2.1% of all cancer diagnoses worldwide (Kitahara & Sosa, 2016). But early detection through self-exam, screening, and education has resulted in an increased number of cancer survivors surviving beyond 5 years (Woods et al., 2016). Self-screening by clients for early signs of TC has the potential to identify the need for referral for further examination to increase early intervention and improved client outcomes. Thyroid nodules are a common early sign of TC, and epidemiologic studies have shown the prevalence of palpable thyroid nodules to be approximately 5% in women and 1% in men living in iodine-sufficient parts of the world (Haugen et al., 2016).

To determine if local nurses had the knowledge to teach the clients they provide care to in the community how to perform self-screening of their neck region, I did an informal pilot survey of 50 community nurses resulting in not one of the nurses having the knowledge of how to perform, or to teach clients how to perform, a self-exam of the neck region for abnormalities. Even though literature supports the effectiveness of self-exams in detecting thyroid abnormalities (Woolf et al., 2018), I did not find instructions for self-exams of the neck addressed. Therefore, there was a lack of information related to teaching clients about self-exam for early signs of TC. For clients with TC who are likely to die of the disease, early detection and treatment may be crucial (Wirth & Shah, 2017). For instance, a goiter is the cardinal symptom of most thyroid diseases, and treatment is

influenced by the evaluation of thyroid size; in this respect, the manual palpation technique is important, especially if the person is asymptomatic (Fuhrer et al., 2012).

Following Walden University's Clinical Practice Guideline (CPG) Manual, I developed an evidence-based clinical practice client education guideline (CPCEG) for TC self-screening to address the lack of knowledge, providing nurses with a standardized teaching guide. The CPCEG will be made available to nurses in the surrounding area as a resource to teach clients how to perform a self-screening of the neck and know when to seek appropriate medical care. Early detection of TC has the potential to facilitate early treatment and create more positive outcomes (Wirth & Shah, 2017) with improved quality of life, leading to a positive social change.

Problem Statement

The problem identified for this doctor of nursing (DNP) project was nurses' lack of knowledge of how to perform, or to teach clients how to perform, self-exams of the neck region for early detection of TC. In a brief review of the literature, no information on self-screenings of the throat were found, and an informal survey of 50 community nurses showed that none of the nurses had the knowledge needed to perform or teach how to perform a self-exam of the neck region for abnormalities. With a CPCEG for providing client education, nurses will be better equipped to prepare clients to participate in self-care.

Many CPGs have been developed to provide nurses with teaching tools to address self-screening for different organs of the body, such as the breast (Oladimeji et al., 2015), but not for the thyroid gland. Evidence has shown that self-screening for TC using neck palpation is an effective method for early detection once the client is taught how to perform

the self-exam correctly and on a regular basis (Bray et al., 2018). Palpation is part of the overall physical assessment implemented by various professionals, to include nurses, and advocating for clients is a fundamental aspect of caring, especially when it comes to teaching clients how to perform self exams and participate in self-care (Epstein et al., 2017). Self-screening has the potential to increase early detection of abnormalities and mobilize the client to seek early medical consultation for appropriate treatment. Clients who are knowledgeable about self-screening are more likely to seek earlier treatment and have better outcomes than those who do not palpate the neck region on a regular basis (Jeihooni & Rakhshani, 2019). Engaging in self-screening through accurate palpation of the neck region leads to benefits such as early detection and treatment, reduced healthcare care costs, and better future health and self-care practices (Sosa et al., 2017). Self-screening thus contributes to positive survival rates for TC (Lim et al., 2017).

Each time a community health nurse sees a client in the community it is expected that the nurse provide education, a basic tenet of the nurse–client relationship (Nahar et al., 2017); self care as it relates to early detection of TC should be a component of this education. Nurses are the first line of contact for most client interactions and have a responsibility to teach and guide clients in self-care practices and support their decisions in relation to knowing when to seek medical attention (Li et al., 2020). The development and implementation of the CPCEG provides the focused teaching tool to increase nurses' knowledge and provide a standardized evidence-based resource for community nurses to use to teach clients how to perform self-screenings for early detection of TC.

For most of the education community nurses provide there are protocols and guidelines; however, I did not find an education screening protocol for TC in the literature. It is imperative that community nurses are equipped with a tool such as the proposed CPCEG to assist them in teaching self-screening. Neck palpation and examination of the thyroid region can be easily taught and correlates well with other diagnostic procedures (Sosa et al., 2017). Through this DNP project, I addressed the lack of a standardized teaching tool by developing an evidence-based CPCEG to be used as a resource by nurses to teach the clients how to perform self-screening practices.

Purpose Statement

The purpose of this project was to develop an evidence-based CPCEG for nurses to use in educating clients how to perform self-screening practices for TC, thus minimizing the gap in practice of nurses not having a standardized client teaching tool for TC self-exams. The guiding practice-focused question leading this project was “What evidence from the literature is available for the development of a CPCEG?” After a comprehensive literature review, no client teaching guidelines for TC were found. In addition, a local community health center facility did not have teaching resources that nurses could use to educate clients on how to perform self-screening on the neck region. An evidence-based CPCEG will better enable nurses to teach clients how to engage in self-exam of the neck region, promoting early recognition of abnormalities and thus decreasing adverse consequences of untreated thyroid abnormalities that can lead to death (Birtwhistle et al., 2019). The newly developed CPCEG may ensure that community nurses have the knowledge and tool to use when

teaching clients how to perform routine self-examination to detect thyroid abnormalities, thus optimizing client care.

Nature of the Doctoral Project

I conducted an in-depth literature search using the following databases: Cumulative Index of Nursing and Allied Health Literature (CINAHL), Medline, Google Scholar, Cochrane Library, PLoS One, and Pub Med. The literature search criteria included peer-reviewed articles in English published between 2012 and present. *Thyroid cancer AND self-examination, client teaching AND early detection, and clinical practice guideline AND thyroid cancer, and thyroid cancer AND self screening, and thyroid cancer AND nurse's knowledge* were the primary search terms used. Websites of professional nursing associations, such as American Association of Colleges and Nurses, were also searched for available resources on TC, early detection, and self-examination of the neck region. The literature search continued until the CPCEG was developed and approved. The selected literature was organized in a literature matrix (see Appendix A) and graded using the criteria of Fineout-Overholt et al. (2010; see Appendix B).

Approach

Following Walden University's *Clinical Practice Guideline Manual*, I developed an evidence-based guideline from the literature after critically appraising the collected literature using the Fineout-Overholt et al. (2010) criteria. The search query led to 606 articles, which I reviewed for topical relevance, and 35 were deemed significant. On closer review these were reduced to 30 due to publication dates more than 5 years old. After approval from the Walden University's Institutional Review Board, I developed the CPCEG

from the evidence-based literature and obtained feedback on the newly developed CPCEG from two groups: three expert professionals using the Appraisal of Guidelines for Research and Evaluation (AGREE) II instrument's guidelines and three key stakeholders. My search for pertinent literature continued until references were redundantly identified and the CPCEG was approved. The CPCEG was revised after receiving feedback from each group. By developing a CPCEG for early screening of TC, I closed the gap in practice, which was the lack of knowledge and no available resources for community nurses to use to teach clients how to perform TC self-screenings.

Significance

The stakeholders who will be impacted by this CPCEG include nurses, physicians, clients, and community clinics. This CPCEG can influence clients engaged in self-exams, especially those at risk of developing TC, to seek early medical interventions. Nurses will be able to use the newly developed guideline to educate clients about the risks, importance, and correct methods to teach self-screening related to TC, thus feeling a sense of empowerment and advocating for their clients. Additionally, guidelines that promote interventions call attention to under-recognized health problems, clinical services, preventive interventions, as well as neglected client populations and high-risk groups (Woolf et al., 2018). The greatest benefit physicians may see is that the CPCEG provides a standardized education tool for clients at risk of developing TC and, with routine use, should improve the health outcomes of patients who seek medical care. Clients will be equipped to engage in self-care, ask relevant questions, and comprehend the answers provided leading to improved outcomes and quality of life. Finally, community clinics will be impacted because the nurses can be

equipped with an evidence-based tool to teach their clients how to perform a self-screening of the neck region, improving quality of care and increasing job satisfaction. Furthermore, this CPCEG will be accessible to all health care providers, providing an evidenced-based, standardized method to educate clients on self-screening for the early detection of TC.

The potential contribution of this doctoral project to nursing practice is that community nurses in Canada and internationally will have an evidence-based tool to use to teach clients how to detect TC. In Canada, tracking of TC confirmed that 8,600 people were diagnosed with TC and 230 died since 2000, compared to the United States where 44,280 were diagnosed and 2,200 died (Ellison & Bushnik, 2020). Though the survival rate remains high in both countries, clients performing self exams will likely increase the survival rates even more. Early cancer detection after education increases clients' self-efficacy and thus leads to positive outcomes (Ersin & Bahar, 2017). The newly developed CPCEG will be transferable to all healthcare settings as the need for self-screening and early detection are universal and the methods of performing a self-exam is the same for all clients. All practitioners should have this evidence-based teaching tool to share with anyone who might be at risk of developing TC supporting quality improvement, evidence-based practice, and ongoing improvement of health outcomes.

The implementation of this CPCEG will foster a positive social change for people who are at risk of developing TC, empowering them to engage in self-care practices, which can lead to early detection and treatment, thus improving quality of life. The development of this CPCEG aligns with Walden University's mission statement to provide a diverse community of career professionals with the opportunity to transform themselves as

scholarly-practitioners so that they can effect positive social change, foster a positive trajectory when it comes to engaging clients in self-screening practices related to early detection of TC and thus improve quality of life. Client teaching will transform society and the health care environment through a collaborative approach and sharing of information. CPGs are important tools that provide explicit recommendations for clinicians who are uncertain about how to proceed, overturn the belief of doctors accustomed to outdated practices, improve consistency of care, and reassure practices and the appropriateness of choice of treatment (Woolf et al., 2018).

Summary

TC is one of the most common endocrine malignancies, accounting for approximately 2.1% of all cancer diagnoses worldwide. The problem addressed in this DNP project was nurses' lack of knowledge of how to perform or teach clients to perform a TC self-exam. The gap in practice was that no standardized resources were available to teach clients how to perform self-exams for early detection of TC. This identified gap leaves clients at a disadvantage. To address the identified gap, the purpose of this project was to develop an evidence-based CPCEG to be used as a resource to teach clients how to perform self-screening for TC. Social change can occur when clients are well educated on how to perform a self-exam of the neck region, leading to earlier detection and treatment of TC and eventually decreased mortality. In Section 2, I discuss the AGREE II model, relevance to practice, local background, and the role of the DNP student.

Section 2: Background and Context

Introduction

Nurses lack the knowledge and skills to teach clients how to perform TC self-exams. Further, nurses do not have a standardized client teaching tool to educate their clients about TC self-exam. Thus, I developed an evidence-based CPCEG to be used as a resource by nurses to teach clients how to perform self-screening to detect thyroid abnormalities, increasing engagement in self-care management and the chance of early detection and intervention. In this section I discuss the AGREE II tool that guided the project, relevance to nursing practice, and local background and context as well as the role I played in the development of this project.

Model

The AGREE tool was used to guide the development and evaluation of a CPCEG for self-exam of the neck region (AGREE Research Trust, 2018). The AGREE tool was first published in 2003 by a group of international guideline developers and researchers (AGREE Collaboration, 2003) and has been shown to be valid and reliable (Brouwers et al., 2010). Since its development, the AGREE II tool has contributed to science and the advancement of practice guidelines globally. The AGREE II tool is comprised of 23 items across six domains: scope and purpose, stakeholder involvement, the rigor of the development, clarity of presentation, applicability, and editorial independence (AGREE Enterprise, n.d.).

Researchers have used the AGREE tool for different guideline evaluations. Wang et al. (2019) used the AGREE II tool to perform quality evaluation of the non-variceal upper gastrointestinal bleeding guidelines and found that the guideline provides clinical

importance for future development of related clinical guidelines. Similarly, Messina et al. (2017) used the AGREE tool when reviewing the quality of published guidelines on adult musculoskeletal ultrasounds. Evaluating the usefulness of the guidelines, they found that the interobserver agreement was very good for all the evaluated guidelines; hence, reviewers stated that the AGREE tool can be applied to any disease area targeting any steps in the health care continuum.

The literature has also demonstrated the usefulness of the AGREE II tool in evaluating quality and rigor of newly developed CPGs. Bhatt et al. (2018) used the AGREE II tool to evaluate the quality of a CPG for the management of pediatric type 2 diabetes. The findings showed that two-thirds of the pediatric type 2 diabetes guidelines were moderate to low quality with the remaining third ranking higher in quality; the lowest scoring domains were rigor of development, editorial independence, and applicability. Bhatt et al. noted that low scores in these three domains were especially significant because they directly evaluate the methodological quality, management of conflicts of interest, and details of CPG implementation and monitoring. In the current study, the AGREE II tool (AGREE Research Trust, 2018) was used to support the advancement of nursing practice by helping to ensure that the newly developed guideline is of high quality before it becomes embedded in how community nurses teach clients how to perform TC self-screening. The content experts in this study used the AGREE tool to evaluate my CPCEG and affirmed that the newly developed CPCEG meets the rigor, transparency, and strength of development based on the AGREE checklist.

Relevance to Nursing Practice

TC is not a new health deviation, but it is the most commonly diagnosed endocrine abnormality. In Canada, TC is the fifth most frequently diagnosed cancer to date, with 8,600 new cases from 1970–2012 and 31.5% of incidences in Ontario and 13.2% in British Columbia (Topstad & Dickson, 2017). Though the survival rate remains high (Ellison & Bushnik, 2020), it could increase with routine early detection. Palpation of the neck region is an important assessment technique for early detection of TC (Epstein et al., 2017). During an extensive literature review, I was not able to find a published CPG to use as a guide for teaching clients who are at risk of developing TC when it comes to performing a self-exam.

An evidence-based CPCEG will be a resource for nurses to use to teach clients how to detect thyroid abnormalities that could be early signs of TC, responding to the evidence-based literature recommendation that clients who are at risk of developing TC should be taught the principles of self-screening of the neck region (Shallwani et al., 2019). Self-examination tools have been developed for other health deviations, such as testicular and breast cancer, with recommendations to use as a general approach to increase health awareness and allow for early detection of any anomalies, which are inexpensive, pain free, and easy to perform (Oladimeji et al., 2015). However, when it comes to TC, educational material is non-existent.

The problem of not having a standardized teaching tool that community nurses can use to educate their clients about TC self-exam increases clients' risks and creates a disadvantage to the nurses. An underlying issue of this lack of teaching is community nurses' lack of knowledge to teach their clients how to perform a self-exam of the neck

region. Nurses are champions as change agents due to their multidimensional role in fostering positive change for clients who are in their care (Ploeg et al., 2017). Additionally, nurses who work in the community setting have been found to play a crucial role when it comes to encouraging and supporting clients in the adaptation of a healthier and disease prevention life style (Brown et al., 2016). With a standardized tool, they will be prepared to meet these expectations.

Multiple strategies have been used to engage clients in self-screening such as counseling, patient reminders, and phone call check-ins (World Health Organization [WHO], 2017). The WHO reported that education could improve cancer awareness, address stigma, identify barriers, and facilitate health-seeking behaviors. For example, WHO (2017) stressed the importance of counseling in guiding clients how and when to access early detection services. Similarly, Grossman et al. (2018) stated when counseling was widely used it improved early cancer detection which leads to early intervention and positive clients outcomes. Ellison and Bushnik (2020) stated that screening for TC using neck palpation would be advantageous to clients once they are shown how to inspect the neck correctly and routinely to detect abnormalities. I was unable to find a guideline or educational plan that addressed self-screening of the throat area. This newly developed CPCEG will be a tool to inform clinicians, clients, and health policy makers about the best available evidence relating to early detection of TC through self-exam of the neck region.

Local Background and Context

The lack of a standardized teaching tool to educate clients about TC self-exam affects all clients. The development of this CPCEG was not affiliated with any identified

health care organization or a specific site. The primary focus was ensuring that all clients are taught the importance and techniques of checking their neck region for early detection of thyroid abnormalities throughout Canada; community nurses were not knowledgeable about current evidenced based TC screening practices (personal communication, nursing supervisor, August 27th, 2018). Although here in Canada there are regulatory organizations for TC, such as the Thyroid Foundation of Canada (<https://www.thyroid.ca>), focus is not on self-exam; the Foundation focuses on awareness and thyroid research, and lends moral support to patients and their family.

Ellison and Bushnik (2020) noted that in Canada, there is no available CPG related to self-exam of the thyroid region. From the literature, it was quite evident that the most frequently used screening methods for the early detection of TC were invasive, painful diagnostic procedures (Ellison & Bushnik, 2020), and there are no guidelines locally, regionally, or federally addressing how to perform a self-exam related to the neck region. This CPCEG will have a direct impact on community nurses by providing a resource to teach clients how to perform self-exam of the neck region, subsequently increasing the nurses' competency and confidence with teaching clients self-care methods, all leading to increased job satisfaction (Berg et al., 2017).

Role of the DNP Student

Working in an endocrinology clinic as a diabetes educator I observed patients with TC coming to the clinic and realized they may have had better outcomes had they been diagnosed earlier; these patients reminded me of my sister who died of TC as a teenager. I have also had extensive experience as a staff nurse providing care for clients who have had a

thyroidectomy who had no previous knowledge that they were at risk of developing TC. As the surgical staff nurse, I was responsible for recovering clients after a thyroidectomy; it was expected of me to teach those clients how to take care of the surgical site and signs and symptoms that must be reported to a health practitioner such as tingling, persistent hoarseness, difficulty swallowing, or bloody sputum. Unfortunately, I did not have a standardized tool to direct the needed education or to teach self screening procedures.

My role in this DNP CPCEG project was to conduct an in-depth literature search, develop a literature matrix and grade the evidence, and develop a CPCEG. I also prepared the packet of information for the expert panel which included the Disclosure for Anonymous Questionnaires (see Appendix D), an introduction letter (Appendix C), the AGREE scoring instrument (see Appendix E), and the newly developed CPCEG (see Appendix G). Based on the feedback from the expert panel, I revised the CPCEG as needed until consensus was met, after which I gathered a group of end users (community nurses) to further evaluate the CPCEG for usability and content. The reviews from the appraisers were analyzed and for the domains that scored below 75% a rationale was provided as to the reason for the low scores. After graduation, I will share the newly developed CPCEG with providers with the hope of it becoming a standardized teaching tool for all health care settings.

My motivation for this project came to fruition because of my lived experience through the eyes of my sister. My sister was diagnosed with TC as a teenager with no idea something was wrong until a school nurse contacted my parents when she noticed swelling on the right side of my sister's neck. It would have been advantageous if my sister and or

people around her had the knowledge to recognize the abnormality. Knowing how to check the neck region for TC could have led to early diagnosis and a much better outcome! This late diagnosis resulted in a thyroidectomy that resulted in a very large surgical incision from her right ear down to the base of her neck, and still an untimely demise. It is my hope to prevent other families from going through similar events, and saving lives with this simple self-exam education. I had no identified biases that would negatively impact this DNP project, though my negative experience with my sister may have led to personal preferences; therefore, it was important to remain objective during the development of the CPCEG; I used the evidenced-based, peer reviewed information to develop the CPCEG.

Summary

This CPCEG will provide community nurses with a standardized tool to use to teach clients how to perform a self-exam of the neck region to fill the identified gap in practice, the lack of an available standardized teaching resource, which should lead to early detection and treatment for TC. The AGREE II tool was used to guide the development and evaluation of the CPCEG. My role as the designer and change agent was to develop the CPCEG and get it in the hands of the community nurses. The CPCEG will be given to community nurses to teach clients how to perform a neck self-exam. The relevancy of this CPCEG to nursing practice is that it will provide a standardized tool for community nurses to use to teach clients how to perform a self-exam. The goal of this DNP project was for community nurses to gain confidence and competence when teaching clients how to perform a self-exam leading to increased job satisfaction. In the next section I discuss the collection and analysis of evidence.

Section 3: Collection and Analysis of Evidence

Introduction

Nurses lack the knowledge and skills to teach patients how to perform a TC self-screening, so I developed an evidence-based CPCEG that can be used for nurses to teach clients how to perform a self-screening of the neck region, potentially increasing clients' self-care management with increased chance of early detection and intervention and thus client outcomes. This newly developed tool will directly impact how community nurses teach clients about self-exams in a multi-factorial way, such as increasing nurses' knowledge that is integrated into practice, meaning clients will be taught with one standardized information guide. As frontline professionals, community nurses' encounters with clients are more frequent than other healthcare professionals; thus, education is largely the responsibility of the community nurses. The lack of a standardized teaching tool to educate clients about TC self-exam affects all clients. This DNP project was not directly linked to a specific facility; my intention is for this newly developed CPCEG to be used throughout Canada to educate clients about the importance and techniques of checking the neck regions for early detection of thyroid abnormalities. In this section I clarify the practice-focused question, the sources of evidence, and the purpose. I also discuss the participants, procedures, protections, and analysis and synthesis.

Practice-Focused Question

With TC accounting for 2.1% of all cancer diagnoses worldwide, it is the most common endocrine malignancy (Kitahara & Sosa, 2016), but there have been no standardized guidelines for teaching clients how to perform a self-screening neck exam. The

practice-focused question that drove this project was “What evidence from the literature is available for the development of a CPCEG?” With the development of a CPCEG, nurses will be more prepared to educate clients, promote individualized holistic care and illness prevention, and educate and advocate for clients (American Nurses Association, 2017). The newly developed CPCEG will provide nurses with the fundamentals needed to teach their clients about TC and self-screening as it relates to early detection and intervention. This CPCEG could become the guide that all nurses working in the community will use for client teaching, providing a standardized teaching resource for thyroid self-screening for TC.

Sources of Evidence

There were several sources of evidence that were used to address the practice-focused question. This CPCEG was based on published research gathered from an in-depth literature search conducted through Cumulative Index of Nursing and Allied Health Literature (CINAHL), Medline, Google Scholar, Cochrane Library, PLoS One, and Pub Med, as described in Section 1. The literature search was ongoing until the CPCEG was developed and accepted. The selected literature was graded using the grading criteria of Fineout-Overholt et al. (2010) and placed in a literature matrix (see Appendix A). This selected literature was used to develop a CPCEG based on the current, peer-reviewed, evidence-based literature that answered the practice-focused question by providing a standardized resource for community nurses to use in educating clients in self-screening neck exams. An additional source of evidence collected through the project was the results of the AGREE II tool provided by the content experts which established the quality of the newly developed CPCEG along with feedback from the end-users who agreed the tool

would be a tool they could use to teach their clients about self-exam of the neck region. The newly developed CPCEG filled the gap in practice by providing a quality, evidence based, standardized guideline to be used to teach clients how to perform a self exam, answering the practice-focused question guiding this project.

Participants

I used Walden University's *Clinical Practice Guideline Manual* to develop a teaching tool. As recommended by the AGREE II (2018) three expert panelists evaluated the newly developed CPCEG using the AGREE II tool to increase the reliability of the assessment. The expert panelists were chosen because of their expertise and experience with TC, familiarity with the AGREE II scoring tool, their ability to speak of the practice-focused question, robust engagement in research, and the fact that they had a direct relationship either personally or with clients who have already been diagnosed with TC. These panelists had also shown support of this project through direct or indirect interactions with me as the project designer.

The expert panel consisted of a nurse manager with a master of science in nursing, one college nursing professor also with her masters degree, and a university nursing professor with a doctoral designation. TC has touched each one of the panelists in different ways. For example, the nurse manager was in charge of the surgical unit when I was a staff nurse caring for TC patients; unfortunately, she was diagnosed with TC but has been in remission for over 15 years; the two college professors originally selected teach second year nursing students and also work on a part-time basis on a surgical unit where many clients have had thyroidectomies, thus, making them good panelists to appraise the newly

developed CPCEG. One of these original college professors was unable to participate so I invited another educator with a Doctor of Nursing Practice designation to be the third panelist; she specializes in emergency nursing and teaches cardiac/respiratory and neurological system nursing, which makes her a good choice.

Procedures

Once the CPCEG was developed, each content expert received the literature matrix, an introductory letter, Disclosure for Anonymous Questionnaires , the AGREE II scoring tool with instructions, and the CPCEG. The expert panelists were asked to review the CPCEG using the AGREE II tool and provide constructive feedback within a 2 week timeframe. The AGREE II tool has been found to be a reliable and valid tool for the assessment of CPGs (Brouwers et al., 2010). The AGREE II tool addresses six domains: scope and purpose, stakeholder involvement, rigor of development, clarity of presentation, applicability, editorial independence, and overall guideline assessment (AGREE Enterprise, n.d; see Appendix E) with a total of 23 items. Revisions were made based on the results of the panelists and once consensus was reached the newly develop CPCEG was given to 3 end-users who reviewed it for content and usability. After evaluation of the DNP project a copy of the summary was given to the panelists to evaluate the project, process, and my leadership towards the completion..

Protections

Since no patient data was collected, there were no identified ethical risks involved in completing the CPCEG. Ethics approval was obtained from Walden University to show compliance with the Institutional Review Board (# 02-02-21-03448065), which helped

ensure that ethical standards were upheld and the project complied with all the rules and regulations. Each expert panelist was given the preapproved Disclosure to Expert Panelist form with an accompanying letter introducing them to the project. The reviewers remained anonymous as the AGREE website shared no identifying information, all paperwork was identified with numbers rather than names.

Analysis and Synthesis

The experts were asked to complete all sections of the AGREE tool through the AGREE website (AGREE Research Trust, 2018) which was used for the appraisal of the panel's evaluation of the newly developed CPCEG. The website calculated and interpreted the individual domain scores as well as provided an overall assessment report. This assessment from the AGREE website enabled me to critique the allocated percentages for each domain and identify any limitations. An outlier occurred when I exported the results from the AGREE website and discovered that an extra column was created without any scores attached, so I manually deleted the extra column and hand calculated all the domains to arrive at the percentages and results. Being the sole developer of the CPCEG enhanced reliability (Fung et al., 2019). I developed a final report based on the results I obtained from my hand calculations and comments from the website reviews. The 3 end users' evaluations were reviewed with no recommendations for revision.

Summary

Self-screening for early detection of TC, as noted in the literature, is advantageous to clients who are at risk of developing the disease (Oladimeji et al., 2015). However, a gap exists in that community nurses do not have the required knowledge nor a standardized

teaching tool to educate clients. The newly developed CPCEG addressed the problem, filling the gap by providing a standardized client education guideline to guide community nurses in teaching their clients; this CPCEG answers the focused-practice question, yes, a CPCEG could be developed based on evidence-based literature. The quality of the newly developed CPCEG was evaluated by a group of content experts using the AGREE scoring tool. In the next section I discuss the findings and implications, recommendations, contribution of the doctoral project team, and the strength and limitations of the project.

Section 4: Finding and Recommendation

Introduction

Self-screening for early signs of TC can identify the need for referral and subsequent early intervention. But nurses lack knowledge on how to perform or teach clients how to perform self-exams, and there is no standardized client teaching tool to educate clients about TC self-exams even though such a tool can enable nurses to be better prepared to teach self-exam of the neck region, promoting early recognition of abnormalities and thus decreasing adverse consequences that can lead to death (Birtwhistle et al., 2019). The practice focused question that drove the project was “What evidence from the literature is available for the development of a CPCEG?” The purpose was to develop an evidence-based CPCEG to be used as a resource by nurses in educating their clients (see Appendix G) how to perform self-screening practices for TC. The importance of a standardized tool is that clients will be exposed to the same body of information as it relates to the early detection of TC, and the tool provides correct methods on how to do self-screening as well as promotes a sense of empowerment.

The sources of evidence that were used to develop the CPCEG were peer reviewed, evidence-based literature published within the past 5 years and information from professional organizations. The AGREE Research Trust (2018) appraisal results from the expert panelists were analyzed by the AGREE website and end-users comments, along with the summary evaluations provided sources of evidence to evaluate the newly developed tool and overall projects. In this section, I will discuss the findings and implications, recommendations, and the strengths and limitations of the project.

Findings and Implications

Three expert panelists provided evaluations of the newly developed CPCEG on the AGREE website. Acceptable scores for each domain are considered 50% and above; however, any domain that scored under 75% should be reviewed. Domain 1, scope and purpose, scored 98%; Domain 2, stakeholder involvement, scored 74%; Domain 3, rigour of development, scored 83%; Domain 4, clarity of presentation, scored 98%; Domain 5, applicability scored 76%; Domain 6, editorial independence, scored 45%; and the overall appraisal score was 89% (see Appendix F).

One panelist commented on grammatical errors within the body of the CPG, but after a close review of the document by both me and my committee, no errors were identified. One appraiser commented that there was no mention of when the CPG would be published and implemented; the implementation and publication were not discussed in the CPCEG but these steps will be completed after graduation. A future project will follow, building on this newly developed CPCEG after graduation when I will liaison with the endocrinology department to do an actual presentation and consultative work with health care organizations caring for people either with risk factors or diagnosed with TC. Further, Domain 2 and Domain 6 were scored below 75%, which revealed a need to review the CPCEG for stakeholder involvement and editorial independence. The stakeholders, patients, nurses, and physicians, were identified in the body of this paper which the appraisers did not have access to. By adding a purpose statement to the CPCEG, “To provide a standardized, evidence-based teaching tool for providers at all levels to use in teaching clients how to perform a self screening for (TC)”, the stakeholders are more clearly

identified. Regarding the editorial independence concerns that the funding body has not influenced the content of the guideline, there were no funding affiliations related to the development of the CPCEG. To address this concern, a statement was added to the CPCEG to indicate no funding body was involved in the project.

The overall assessment comments (see Appendix F) indicated that the CPCEG can be implemented efficiently and that it will be useful to health professionals for providing appropriate health teaching and assessments to patients with TC. Three end users (community nurses) were asked to provide feedback as to the usability of the newly developed CPCEG. The 3 community nurses reported that the guideline was well written, not too long, and that it is a tool that would be easy to implement in the community. Both panelists and end-users reported that this was the first time they have come across a CPG that was specific for TC screening. The 3 community nurses reported that the newly developed CPCEG will be a good tool to use to teach clients about self-exam of the neck region and, hopefully, patients will engage in self monitoring and improve their self efficacy and health outcomes related to TC. The summative evaluation completed by the content experts reflected the CPCEG tool was warranted because it will be the first tool specifically developed for people who are at risk of developing TC, the process was organized and my leadership was conducive to being organized, and that I displayed patience when I was guiding them through the AGREE website. This CPCEG is an educational tool that should ensure that evidence-based information is available for teaching all clients and thus, foster a positive social change in self-care practices and a sense of empowerment.

Recommendations

The gap in practice for this DNP project was that nurses did not have a standardized client teaching tool to educate clients about TC self-exam. The literature reviewed for this DNP project indicated that an educational intervention using the AGREE II tool to appraise the newly developed CPCEG would increase the nurses' knowledge and clients would benefit from the teaching tool. The recommended implementation for this newly developed CPCEG will occur after graduation from Walden University when the guideline will be presented to the community nurses, nurse practitioners, and physicians in private practices/clinics for potential implementation. It is my hope that this newly developed CPCEG will become the standard for client education and self-exams for TC will become the norm.

Strengths and Limitations of the Project

This DNP project practice focus was to fill the gap of nurses not having a standardized tool to use as a guide to teach clients about self-screening of the neck region. The results of the project indicated that the newly developed CPCEG should be successful in improving nurses' and clients' knowledge related to TC self-screening. One strength of this project was that an evidence-based tool was developed for community nurses to use to teach their clients how to engage in self-care practices as it relates to palpating their neck region to detect thyroid abnormalities, potentially leading to earlier diagnosis and more successful treatment of TC. Another strength was that 3 independent panelists and 3 community end-users evaluated and appraised the newly developed evidence-based tool for usability, supporting the quality and usefulness of the newly developed tool. A strength

identified by the content experts was that communication was clear and concise; they commented on the depth of the literature review, leading to a well-rounded, well done final project.

One major limitation was no TC CPG available in the literature to use as a model for the development of my newly developed CPCEG. Another limitation was that this project was not affiliated with an organization or specific site due to the restrictions of the pandemic, but because the CPCEG was created for all community nurses to use to teach their clients about self-exam of the neck region, this had minimal negative effect, except the decreased availability of input from experts in the field. Finally, I was facing a time constraint in relation to completing the DNP program in 2021 due to the fact that I had already spent more than \$60,000 dollars. Despite the limitations, an evidenced based, teaching tool was developed so providers have a standardized teaching tool which they can use to empower patients in early identification and treatment of TC, increasing self-care practices and improving patient outcomes.

Summary

The findings and implications for this project were centered around the anonymous use and analysis of the AGREE II appraisal instrument by an expert panel. Two of the 3 expert panelists and all 3 of the end-users completed the summative evaluation of my project and returned it via prepaid envelope to maintain anonymity. The panel favored the use of the CPCEG and provided recommendations in the available comment section and summative evaluation. The panelists evaluated my leadership ability stating I was well organized, conducted a thorough review of the literature which made me well informed

about TC, and that my communication in relation to how to access the AGREE website made it easy to complete the evaluation of the CPCEG. In Section 5 I will focus on my self-analysis and summary of the final DNP project including challenges, solutions, and insights gained.

Section 5: Dissemination Plan

Dissemination of a study's findings is an important step in the research process. Dissemination of research is an active process that is necessary to bridge the gap between evidence-based practice and care, as study information cannot benefit anyone if it is not shared (Fritz, 2016). There are many physicians' private practices, clinics, home health care organizations, and community care centers that would welcome a standardized tool to enhance how TC self-exams should be taught in relation to maintaining congruency in practice. My plan is to work with physicians, nurse practitioners, community nurses, and clients to implement the CPCEG as a standard of practice through seeking permission to conduct presentations to community nurses, physicians, and nurse practitioners. I also will liaison with the Registered Nurses' Association of Ontario in relation to publishing my CPCEG in their *Best Practice Guideline Journal*.

Analysis of Self

My nursing career started as a health care aide in the community in my early 20s. I found a passion for helping and educating people from all walks of life. And as their care provider during that vulnerable phase in their lives, I felt a calling to get formal training in the hope that I would make a positive change in the lives of the people who are entrusted in my care by providing education that was grounded in science and research. This sense of duty led me to become a registered nurse in 1993 and work as a staff nurse in many different areas of the health care sector before earning my Bachelor of Science in Nursing in 2011. This degree created a segway into teaching, and then a Master of Science in Nursing in 2014, and now a terminal degree, the DNP. Providing all clients with the best care by

knowing how to elicit changes that are centered on them at a level beyond a staff nurse is deemed important. Rules and guidelines such as the DNP Essentials by the American Association of Colleges of Nurses (2006) helped to guide me in evidence-based client centered care, which contributed to the development the CPCEG.

Practitioner

As the DNP student carrying out this project, I was able to take on roles as a practitioner, scholar, and project manager. In the role of the practitioner I was able to use my educational background and clinical expertise to review evidence-based practice guidelines, identify the problem that the project was focused on, and develop a CPG that frontline nurses and other health care practitioners will use to positively impact lives. In this role, I found that this was one of the ways a DNP prepared nurse helps bridge the gap between research and practice. After reviewing the literature, it was apparent how important it is for community nurses to have an evidence-based tool to use to teach their clients how to perform self-screening of the neck region to detect thyroid abnormalities. Personally, I have found that few nurses in my practice who have a DNP and still provide bedside nursing care. My end goal vision was to find a full-time faculty and/or director of health and wellness position; either position would afford me to stay in touch with direct clients' care through education or in a collaborative platform. My vision was fulfilled when I was offered and accepted the position of director of care at a long-term care facility.

Scholar

The road to this terminal degree has been one full of barriers yet filled with great experiences and tenacity. As a scholar, I focused on my courses and learning everything

possible. In reflecting on my journey, I have learned to look at what it takes to be a scholar in a different light, such as taking research and breaking it down into usable elements that nurses can use to improve patient care. I was able to identify and overcome many barriers (personnal and professional), which I had to navigate sometimes singled-handedly to finally be at this juncture. The education obtained has helped me to glean ways to enact changes within the nursing realm that will be aligned with current recommendations and evidence-based research. Also, I had the time to re-evaluate my long-term professional goals; I plan on continuing down the education path, but in a different healthcare environment, director of care, where I will impact both nurses and the population at large.

Project Manager

As the project manager, I was able to complete the project and provide assistance to the expert panel members as they navigated the AGREE II website. I researched literature and based on the selected literature which supported the DNP project, I developed the literature matrix. With the completion of the literature matrix and development of the CPCEG, I identified the three professionals who qualified to perform an appraisal of the CPCEG using the selected AGREE II instrument. It was stressful at times because it was the first time using the AGREE II tool, and I had to seek assistance from my colleagues, but quite rewarding with the end product, because the newly developed evidence-based CPCEG for community nurses to use to teach their clients how to perform self-exam was deemed well written and of high quality.

Challenges, Solutions, Insights Gained

The challenges I faced during this process of completing my terminal degree were both academic and personal. Completing the required elective courses was really easy for me, even when I was taking 10 credits each quarter. I was unaware that I could have worked on my proposal while doing the electives so, after completing all the electives, I started to work on the prospectus. I changed sites, preceptors, and project topics many times during the process. Working on my project, tending to my family, and my obligations to two jobs was a priority. The biggest academic challenges were the many revisions that were needed to ensure that my project was written at scholarly level, not knowing what the proposal template was, and delaying the development of the literature matrix until the last minute. As mentioned above another challenge was learning how to navigate the AGREE website for the first time. I had to learn how to navigate the AGREE website in order to provide assistance to the panelists if required, but fortunately, all 3 panelists had prior knowledge of how to use the AGREE website.

I have gained new insights into the importance of seeking clarifications early, which would have fostered the completion of my DNP program sooner. My learning curve has increased exponentially. I fully comprehend the magnitude and investment one needs when tackling a terminal degree. The completion of this scholarly project has provided me the opportunity to gain insights about myself and the profession of nursing. Ultimately, the completion of this project allowed me to practice to the fullest extent of the DNP prepared nurse role. I have a better understanding of the importance the DNP role has in translating evidence-based practice into information that a frontline nurse can physically use in his or

her practice. Through this role I can make a difference in the lives of patients, ensuring that our clinical practices are based on scientific methodologies.

Summary

TC is a significant disease that impacts people globally, but with an excellent survival rate when it is detected early. The purpose of this doctoral project was to develop a CPCEG for frontline community nurses to use to teach their clients how to perform self-exam of the neck region to detect TC. The supporting literature supported the need for nurses to know how to teach clients the importance of engaging in self-screening of the neck region to detect thyroid abnormalities. So, the development of the CPCEG will fill the arching gap of not having a standardized client teaching tool. Searching through the literature was a difficult endeavor, especially since there was not a published CPG for practitioners to use when educating clients about TC.

As a scholar, I identified the need for this newly developed guideline. Working through endless challenges of writing the guideline and having an appraisal completed by a diverse panel of experts was a task like no other. The creation of this CPCEG afforded me the latitude of providing other health care practitioners a CPG that is grounded in scientific underpinnings. Client centered care will always be imperative, and it is one of my responsibilities as an advanced nurse practitioner to assist nurses and clients in making the best decisions for their care by supporting evidence-based education before seeking medical intervention especially when it comes to TC. Finally, the evaluations from the expert panelists concluded that this newly developed evidence-based CPCEG would positively

impact nurses' and clients' knowledge when it comes to teaching and performing self-care practices towards detecting thyroid abnormalities.

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Appendix A: Literature Review Matrix

Melnyk, Mazurek, and Fineout-Overholt's tool

Reference	Framework	RQs	Methodology	Analysis & Results	Conclusions and recommendations	Evidence level
Birtwhistle, R., Morissette, K., & Dickson, J.A., Reynolds, D. L., Avery, M. T., Domingo, F. R., Rodin, R., & Thombs, B. D. (2019). Recommendation on screening adults for asymptomatic thyroid dysfunction in primary care. <i>Canadian Medical Association Journal</i> , 191(46), e1274-e1280.	Screening	What would be the benefits of screening for thyroid dysfunction versus not screening?	na	Screening is intended to detect thyroid dysfunction in asymptomatic clients. An estimated 10% of Canadians aged 45 years or older report that they have been diagnosed with thyroid dysfunction and prevalence is higher in women (16%) than in men (4%).	Provide guidance to clinicians, methodologists and patients on screening for thyroid dysfunction. Clinicians should remain alert for thyroid dysfunction and investigative accordingly.	VII
Bray, F., Ferlay, J., Soerjomataram, I., Siegel, R. L., Torre, L. A., & J, A. (2018). Global cancer statistics 2018: Globocan estimates of incidence and mortality worldwide of 36 cancers in 185 countries. <i>A Cancer Journal for Clinicians</i> , 68(6), 394-424.	Status report	What is the global burden of cancer worldwide using the GLOBOCAN 2018 estimates?	na	The etiology of TC is not well understood aside from the risk factor of ionizing radiation, especially when exposed in childhood.	Estimate of 18.1 million new cases. TC is responsible for 567, 000 cases worldwide. The global incidence rates in women with TC are 10.2/100,000, which is 3 times higher than in men. In the early 1980s TC increased due to the improvements in the detection and diagnosis of these tumors, and possibly changes in prevalence of risk factors.	VII
Ellison, L., & Bushnik, T. (2020). Changing trends in thyroid cancer incidences in Canada: A histologic examination, 1992 to 2016. <i>Statistics Canada Health Reports</i> , 31(1), 15-25	Health report	What extent did increased detection of papillary TC lead to reported increases in overall TC in Canada.	na	24,000 new primary TC cases were diagnosed in Canada from 2012-2016. Women were diagnosed at a rate almost three times higher than men. From 1992-2016, TC mortality rates were stable among females and	TC declined overall among females and stabilized among males in Canada from 2012-2016. Survival in Canada continues to be high; evidence of concerns about over treatment continues to be an issue. A re-examination of projected TC incidence rates after 2016 and continued monitoring of histology-specific to TC incidence and survival are recommended.	VII

				increased slightly among males.		
Epstein, I., Herne, P., Masita, S., Peisachovich, E., Da Silva, C., Grosman-Rimon, L., Lee, C., Robinson, B., Eliadis, M. (2017). The practice and teaching of palpation of the head and neck: A scope review. <i>Journal of Nursing Education</i> , 7(12), 20-27.	Arksey and O'Malley's five-stage approach	How is palpation of the head and neck practiced and taught?	Systematic review	15 articles from medicine, chiropractic and dentistry published 1987-2016. Advocated to practice and teach palpation of the head and neck from a pragmatic perspective particularly with the increased use of ultrasound technology to detect masses.	Although nursing studies were absent from this review we believe nurses play a vital role when they are aware of the Cartesian and Pragmatic perspectives when practicing and teaching head and neck palpation as part of a physical assessment. Learning how other disciplines are practicing and teaching head and neck palpation skills will improve interdisciplinary collaboration.	V
Ersin, F., & Bahar, Z. (2017). Effects of nursing interventions planned with health promotion models on the breast and cervical cancer early detection behaviors of women. <i>International journal Caring Science</i> 10(1), 421-432	Health Promotion Model/Health Belief Model	The study was conducted to ensure nurses are teaching women to perform the breast and cervical cancer early detection behaviors of women over age 40	Quasi-experimental study	Using the health promotion model, findings showed that women had a better understanding concerning breast cancer and the importance of early detection behaviors were higher in the experimental group when compared to the control group.	Positive changes observed in the breast and cervical cancer early detection behaviors in women as a result of nursing interventions showed the efficiency of the HBM and the HPM. Spreading these interventions to the national level is of importance in maintaining the continuity of the positive changes.	III
Fuhrer, D., Bockisch, A., & Schmid, K. W. (2012). Euthyroid goiter with and without nodules- Diagnosis and treatment. <i>Deutsches Arzteblatt International</i> , 109(29-30), 506-516.	na	To recognize the importance of an etiological diagnostic work-up for nodular goiter, to understand the use of particular diagnostic tests as part of this examination and to gain an overview	Literature review	There have been few randomized trials concerning the diagnosis and treatment of goiter. Nodular goiter can be managed by watchful waiting, drug treatment, radioactive iodine therapy, or surgery.	Many clients with nodules need no treatment, unless symptomatic through self-examinations. However, if Euthyroid nodular goiter needs to be treated the main goal would be to size reduction through either surgery or radioactive iodine therapy.	VII

		of the current scientific evidence regarding the treatment options for nodular goiter.				
Fung, C. H., Lim, Y. W., Mattke, S., Damberg, C., Shekelle, P. G. (2019). Systematic Review: The evidence that publishing patient care performance data improves quality. <i>Annals of Internal Medicine</i> , 148, 111-123.	Patient care performance	To synthesize the evidence for using publicly reported performance data to improve quality	Systematic review	Health plans that voluntarily report performance data outperformed non-publicly reporting plans	Evidence is scant, particularly about individual providers and practices. Rigorous evaluation of many public reporting systems is lacking. Evidence suggests that publicly releasing performance data stimulates quality improvement activity at the hospital level. The effect of public reporting on effectiveness, safety, and patient-centeredness remains uncertain.	I
Grossman, D. C., Curry, S. J., Owens, D. K., Barry, M. J., Caughey, A. B., Davidson, K. W., Tseng, C. W. (2018). Behavioral counseling to prevent skin cancer: US preventive services task force recommendation statement. <i>Journal of American Medical Association</i> , 319(11), 1134-1142.	Behavioral counseling	Recommendation on behavioral counseling for primary prevention of skin cancer	na	This study confirmed that behavioral counseling does make a difference when it comes to how individual viewed skin cancer and the preventative interventions such as screening for skin cancer with skin self-examination	The USPSTF recommends counseling young adults, adolescents, children, and parents of young children about minimizing exposure to UV radiation for persons aged 6 months to 24 years with fair skin types to reduced risk of skin cancer.	VII
Haugen, B. R., Alexander, E. K., Bible, K. C., Doherty, G. M., Mandel, S. J., Nikiforov, Y. E., & Randolph, G. W. (2016). 2015 American Thyroid Association management guidelines: For adults with thyroid nodules and	Clinical Practice Guideline	The aim of these guidelines was to inform clinicians, patients, researchers, and health policy makers on published evidence relating to the diagnosis	na	Revision of guidelines for the management of thyroid nodules included recommendations regarding initial evaluation, clinical and ultrasound criteria for fine-needle aspiration	The development of evidence-based recommendations to inform clinical decision-making in the management of thyroid nodules and differentiated thyroid cancer. They represent, in our opinion, contemporary optimal care for patients with these disorders.	VII

differentiated thyroid cancer. <i>Thyroid Journal</i> , 26(10), 1-133.		and management of thyroid nodules and differentiated thyroid cancer		biopsy, interpretation of fine-needle aspiration biopsy results, use of molecular markers, and management of benign thyroid nodules.		
Jeihooni, A. K., & Rakhahani, T. (2019). The effect of educational intervention based on health belief model and social support on promoting skin cancer preventive behaviors in a sample of Iranian farmers. <i>Journal of Cancer Education</i> , (34), 392-401.	Health belief	Studies were completed to survey the effect of educational intervention based on HBM and social support on promoting skin cancer preventative behaviors	Quasi-experimental study	200 participants (100 in each group). The results showed that before intervention, no significant difference between the groups in terms of knowledge, perceived susceptibility, severity, benefits, and cues for action, self-efficacy, and social behaviors against skin cancer. However, after three, then six months the experimental group showed a significant increase in all variables, while no changes in the control group	The study showed the effectiveness of interventions based on the HBM constructs and social support in adopting of skin cancer preventative behaviors. Hence these models can act as a framework for designing and implementing educational interventions for the prevention of skin cancer.	III
Kitahara, C. M., & Sosa, J. A. (2016). The changing incidence of thyroid cancer. <i>Journal of Nature Reviews/Endocrinology</i> , 12, 647-653.	na	What is causing the prevalence of modifiable risk factors of TC diagnosis?	Literature review	The problems of over-diagnosis and overtreatment of a disease that is typically indolent, where treatment-related morbidity might not be justified.	The rise in incidence of TC seems to be attributable both to the growing use of diagnostic imaging and fine-needle aspiration biopsy, which has led to enhanced detection and diagnosis of subclinical thyroid cancers and environmental factors.	VII
Lee, J-H., Chung, Y. S., & Lee, Y. D.	Diagnosis	The purpose of this study is to	Retrospective Longitudinal	The most common site of initial	Men with PTC tumors larger than 2 cm, lateral neck node metastasis,	VI

(2016). A variation in recurrence patterns of papillary thyroid cancer with disease prognosis: A long-term follow-up study. <i>Journal of Head & Neck</i> , 35, 767-771.		examine sites of PTC recurrence, interval from initial treatment to recurrence, and changing patterns of recurrence during long-term follow-up		recurrence was the lateral neck. In 6.7% of patients, distant metastases occurred as initial recurrences.	and multiple local recurrences should be scrutinized for distant metastasis even after 10 years.	
Li, C., Liu, Y., Xue, D., & Chan, C. W. H. (2020). Effects of nurse-led interventions on early detection of cancer: A systematic review and meta-analysis. <i>International Journal of Nursing Studies</i> , 110, 16.	Health Belief Model	To synthesize the evidence on the impact of nurse-led intervention on early cancer detection	Systematic Review/Meta-analysis	Ten studies examined the effect of nurse-led intervention, including education, patient reminders, counseling, and patient navigation, on early detection of breast or cervical, colorectal, and lung cancer. The studies showed that nurses play a crucial role in early detection and treatment of precancerous and cancerous lesions.	Nurse-led interventions may improve early cancer detection, cancer knowledge, early detection beliefs, and cases of detected precancerous lesions. The effects of nurse-led interventions conducted in home settings on improving mammography and clinical breast examination in improving uptake rates and needs further exploration. Social media may be an option for delivering early cancer detection guidance, but needs to be further explored.	1
Lim, H., Devesa, S. S., Sosa, J. A., Check, D., & Kitahara, C. M. (2017). Trends in thyroid cancer incidences and mortality in the United States, 1974-2013. <i>Journal of American Medical Association</i> , 317, 1338-1348.	na	To compare trends in TC incidence and mortality by tumor characteristics of diagnosis	Analysis	Thyroid cancer incidence and mortality rates have increased in clients with late diagnosis with percentage between 2.4% and 2.9%.	Among clients in the US diagnosed with TC from 1974-2013, the overall incidence increased 3% annually, with increases in the incidence rate and mortality rate for advanced-stage TC.	VII
Messina, C., Bignotti, B., Tagliafico, A., Orlandi, D., Corazza, A., Sardanelli, F., & Sconfienza, L. M. A. (2017). A critical appraisal	AGREE II tool	The aim of this study was to evaluate the quality of published guidelines on musculoskel	Evaluation	Five guidelines were included, published between 2001-2014, the appraisal showed immediate	Overall, quality MSK-US guidelines ranges from low to average when evaluated using the AGREE II tool. The editorial independence domain was the most critical, thus deserving more attention when	VII

of the quality of adult musculoskeletal ultrasound guideline using the AGREE II tool: An Euro AIM initiative. <i>Insights Imagine</i> , 8, 491-497.		etal ultrasound		results with four out of five guidelines scoring “average” as overall quality.	developing future guidelines.	
Nahar, V. K., Hasani, Z., Martin, B., Boyas, J. F., Chabok, R., Philip, L. S., Ghafari, G., Seidfaraji, L., Chelf, S., Lakhan, R., Wilkerson, A. H., Savoy, M., & Sharma, M. (2017). Perceptions and practices of the Iranian population regarding skin cancer: A literature review. <i>Journal of Skin Cancer</i> , 13, 1-13.	na	The purpose of this study was to gain an insight into the current skin cancer related knowledge, attitudes, beliefs, and practice among Iranian population.	Literature Review	The findings of this study showed that the efforts to prevent skin cancer are needed. Also education concerning the dangers of the sun exposure as well as strategies used to prevent or lower the risk of developing skin cancer should be stressed. Also, a lack in the availability of personnel and materials, cost, inconvenience , and a desire for a tanned appearance are reasons given for the disconnections between education and implementation.	Skin cancer is highly preventable if protective measures are used. However, not all participants had the knowledge of how to prevent skin cancer	VII
Oladimeji, K. E., Tsoka-Gwegweni, J. M., Igboekwe, F. C., Twomey, M., Akolo, C., Balarabe, H. S., Jegede, O. A., & Oladimeji, O. (2015). Knowledge and beliefs of breast self-examination and breast cancer among market women in Ibadan, South West, Nigeria. <i>Journal of PLoS One</i> , 10(11):e0140904	Knowledge and belief	This aim was to assess knowledge and beliefs of BSE among market women.	Descriptive cross- section study	372 (61.7%) women strongly agreed that BSE is a method of screening for breast cancer. Highest proportion 219 (36.3%) reported that the best time for a woman to performed BSE was ‘anytime’. Most of the respondents believed breast cancer	More efforts are needed in creating awareness and advocacy campaigns in the grassroots in order to detect early breast cancer and enhanced prevention strategies that would reduced the burden of breast cancer in Nigeria	IV

				is a dangerous disease that kills fast and requires a lot of money for treatment.		
Ploeg, J., Skelly, J., Rowan, M., Edwards, N., Davies, B., Grinspun, D., Bajnok, L., & Downey, A. (2010). The role of nursing best practice champions in diffusing practice guidelines: A mixed methods study. <i>Worldviews on Evidence-Based Nursing</i> , 7(4), 238–251.	Evidence-based practice	To determine how nursing best practice champions influence the diffusion of Best Practice Guideline recommendations	Mixed method triangulation design	Findings suggested that champions influence the use of Best Practice Guideline recommendations most readily through: (1) dissemination of information about clinical practice guidelines, specifically through education and mentoring; (2) being persuasive practice leaders at interdisciplinary committees; and (3) tailoring the guideline implementation strategies to the organizational context.	The research suggested that nursing best practice champions have a multidimensional role that is well suited to navigating the complexities of a dynamic health system to create positive change	III
Shallwani, S. M., King, J., Thomas, R., Thevenot, O., De Angelis, G., Aburub, A. S., & Brosseau, L. (2019). Methodological quality of clinical practice guidelines with physical activity recommendations for people diagnosed with cancer: A systematic critical appraisal using the AGREE II tool. <i>PLoS ONE</i> , 14(4), 1-16.	AGREE II tool	Can physical activity relieved certain cancer and cancer treatment side effect?	Analysis	Evidence suggests physical activity is beneficial for people diagnosed with cancer. Although there were limitations in the primary research informing the recommendations, guidelines of acceptable quality exist to direct practitioners for a range of cancer populations. Improvement is needed in	Healthcare providers can support people with self-screening by assessing well-developed appropriate guidelines and interpret them for their clients	VII

				the applicability of the guidelines to enhance their relevance and clinical use.		
Sosa, J. A., Duh, Q. Y., & Doherty, G. (2017). Striving for clarity about best approach to thyroid cancer screening and treatment: Is the pendulum swinging too far? <i>Journal of American Medical Association Surgery</i> , 152(8), 721-722.	Screening	What is the best approach to do screen for TC?	Systematic evidence review	New focus should be placed on understanding alternative explanations for this increased other than over-diagnosis, including potentially modifiable factors, such as obesity and environment exposures outside of known influence of radiation.	More research is needed to identify alternate causes for the increasing incidence of the disease, to inform efforts at prevention, and to developed novel approaches to the management. Clinicians believe that routine palpation of the thyroid gland can provide important information about thyroid nodules and should remain a pillar of good physical examination by clinicians.	VII
Topstad, D., & Dickinson, J. A. (2017). Thyroid cancer incidence in Canada: A national cancer registry analysis. <i>Canadian Medical Association Journal OPEN</i> , 5(3), E612-E616.	na	The aim of this study was to understand TC incidence and mortality trends in Canada and across provinces.	Analysis	Age-standardized incidence and mortality rates were calculated on the basis of population data published by Statistics Canada, using Excel spreadsheets. The incidence rate increased in women (1970) from 3.9 to 23.4 per 100 000 and in men from 1.5 to 7.2 per 100 000, while mortality rates remained stable at around 0.5 per 100 000 for both sexes.	There is great variation in TC incidence rates among provinces, with a new pattern of rapidly increasing incidence affecting mostly women aged 40-60 years. However, with such variation in incidence rate among provinces within one country, the TC epidemic in Canada is most likely due to over diagnosis, and the differences in incidence rates probable relate to different practice patterns among provinces.	VII

Wirth, L. J., & Shah, M. H. (2017). Are thyroid cancer incidence and mortality rates truly increasing in the United States? <i>The ASCO Post</i> . 1-7. https://ascopost.com/issues/august-1-2017/are-thyroid-cancer-incidence-and-mortality-rates-truly-increasing-in-the-united-states/	na	Was the rise in subclinical not detected in the first place, or does it reflect a true increase in TCs that should represent cause for concerns?	Analysis, of surveillance, epidemiology, and end results (SEER)	The study stated that better detection tools are needed.	The overall conclusion was the diagnosis of TC is not due to over-diagnosis as initially predicted, but that there were many medical diagnostic tools that have been used globally.	VII
Woods, M., Vogel, V., Ng, A., Foxhall, L., Goodwin, P., & Travis, L. B. (2016). Second malignant neoplasm: Assessment and strategies for risk reduction. <i>American Society of Clinical Oncology</i> , 30(30), 3734-3745	na	What are the incidence pattern and risk factor for second malignant neoplasm?	Analysis	Risk factor for developing second malignant neoplasm includes demographic factors, stage of diagnosis, and treatment modality.	People with history of any type of cancer have a higher rate of developing second malignant neoplasm when compared with individuals with no cancer history.	VII
Woolf, S. H., Grol, R., Hutchinson, A., Eccles, M., & Grinshaw, J. (2018). Potential benefits, limitations, and harms of clinical guidelines. <i>British Medical Journal</i> , 318(7182), 522-530.	Clinical practice guideline	To examine the potential benefits, limitations, and harms of clinical guidelines	Evaluation	As per the findings, the greatest benefit that could be achieved by guidelines is to improve health outcomes. Also, patients with identical clinical problems receive different care depending on their clinicians, hospital, or location. Guidelines offer a remedy, making it more likely that patients will be cared for in the same manner	Attitudes varied as to the benefit of using guidelines which varies from group to group. Guidelines created by governments or payers to control spiraling cost may constitute responsible public policy.	VII

				regardless of where or by whom they are treated by.		
World Health Organization. (2017). Guide to cancer early diagnosis.	Diagnosis/screening	Is there an impact on early detection of TC?	Evaluation	When discussing the availability and/or use of a testing modality for early diagnosis and screening, it is important to distinguish its use as a diagnostic or test (early diagnosis) or as a screening test?	The WHO stated that self-screening should be viewed as a process not as administering a particular test, examination, or procedure.	VII

Note. Evidence graded using the hierarchy of evidence model from “Evidence-based Practice Step by Step: Critical appraisal of the evidence: Part I,” by E. Fineout-Overholt, B. M. Melnyk, S. B Stillwell, and K. M Williamson, 2010, *American Journal of Nursing*, 110(7), p.47-52.

Appendix B: Level of Evidence

Levels of Evidence	Description of the Evidence
Level 1	Evidence obtained from systematic reviews or meta-analyses of randomization controlled trials
Level 2	Randomized controlled trials
Level 3	Evidence obtained from well-designed controlled trials without randomization, quasi-experimental
Level 4	Evidence from well-designed case-control or cohort studies
Level 5	Systematic reviews of descriptive or qualitative studies
Level 6	Evidence obtained from a single descriptive or qualitative study
Level 7	Evidence obtained from the opinions of authorities and /or reports of expert committees

Evidence-Based Practice in Nursing and Health Care: A Guide to Best Practice
(Melynck & Fineout-Overholt, 2011, p.12).

Appendix C: Letter to Panelists

February 03rd, 2021

Dear Expert Panelist: Alicia Henry-Wade

My name is Marcia Miller, DNP student at Walden University and I am developing a clinical practice client education guideline (CPCEG) for Early Detection of Thyroid Cancer. This project is not aligned with any particular site and /or organization. The end-point users will be community nurses and clients.

I am requesting your expert knowledge and professional opinion regarding the quality of the CPG. I selected you due to your knowledge, expertise, experience, and ability to speak on the importance of engaging in self-screening of the neck region to detect thyroid abnormalities.

The CPG will be graded using the AGREE II tool, with a link sent to your provided emails. The link will take you directly to the grading page, with a submission button at the very end after completion. I am asking that the CPG be graded within two weeks, to allow for finding to be analyzed, and CPG updated if needed.

Thank you for your time and effort in assisting me with this endeavor. I look forward to your evaluations and a joint effort in providing the best client care outcomes. Kindly, feel free to reach out with any questions or concerns regarding the CPG or the AGREE II tool.

Thank you again for your valiant effort in ensuring best client outcomes.

Marcia Miller RN BSN MSN APN DNP (c)
marcia.miller2@waldenu.edu

Appendix D: Expert Disclosure Questionnaire

Disclosure to Expert Panelist Form for Anonymous Questionnaires

To be given to an expert panelist prior to collecting questionnaire responses---note that obtaining A “consent signature” is not appropriate for this type of questionnaire and providing respondents With anonymity is required.

Disclosure to Expert Panelist

You are invited to take part in a expert panelist questionnaire for the doctoral project that I am conducting.

Questionnaire Procedures

If you agree to take part, I will be asking you to provide your responses anonymously, to help reduce bias and any sort of pressure to respond a certain way. Panelists’ questionnaire responses will be analyzed as part of my doctoral project, along with any archival data, reports, and documents that the organization’s leadership deems fit to share. If the revisions from the panelists’ feedback are extensive, I might repeat the anonymous questionnaire process with the panel of experts again.

Voluntary Nature of the Project

This project is voluntary. If you decide to join the project now, you can still change your mind later.

Risks and Benefits of Being in the Project

Being in this project would not pose any risks beyond those of typical daily professional activities. This project’s aim is to provide data and insights to support the organization’s success.

Privacy

I might know that you completed a questionnaire, but I will not know who provided which responses. Any reports, presentations, or publications related to this study will share general patterns from the data, without sharing the identities of individual respondents or partner organization(s). The questionnaire data will be kept for 5 years, as required by my university.

Contacts and Questions:

If you want to talk privately about your rights in relation to this project, you can call my university’s Advocate via the phone number 612-312-1210. Walden University’s ethics approval number for this study is (Student will need to complete Form A in order to obtain an ethics approval number).

Before you start the questionnaire, please share any questions or concerns you might have
CGPDManual (May 2019) Page 15.

Appendix E: AGREE II Instrument

Domain 1. Scope and Purpose

1. The overall objective(s) of the guideline is (are) specifically described.
2. The health question(s) covered by the guideline is (are) specifically described.
3. The population (patients, public, etc.) to whom the guideline is meant to apply is specifically described.

Domain 2. Stakeholder Involvement

4. The guideline development group includes individuals from all the relevant professional groups.
5. The views and preferences of the target population (patients, public, etc.) have been sought.
6. The target users of the guideline are clearly defined.

Domain 3. Rigour of Development

7. Systematic methods were used to search for evidence.
8. The criteria for selecting the evidence are clearly described.
9. The strengths and limitations of the body of evidence are clearly described.
10. The methods for formulating the recommendations are clearly described.
11. The health benefits, side effects, and risks have been considered in formulating the recommendations.
12. There is an explicit link between the recommendations and the supporting evidence.
13. The guideline has been externally reviewed by experts prior to its publication.
14. A procedure for updating the guideline is provided.

Domain 4. Clarity of Presentation

- 15. The recommendations are specific and unambiguous.
- 16. The different options for management of the condition or health issue are clearly presented.
- 17. Key recommendations are easily identifiable.

Domain 5. Applicability

- 18. The guideline describes facilitators and barriers to its application.
- 19. The guideline provides advice or tools on how the recommendations can be put into practice.
- 20. The potential resource implications of applying the recommendations have been considered.
- 21. The guideline presents monitoring or auditing criteria.

Domain 6. Editorial Infependence

- 22. The views of the funding body have not influenced content of the guifeline.
- 23. Competing interests of guideline development group (AGREE Research Trust, 2018).



A critical group appraisal of: CPG for Early Detection of Thyroid Cancer using the AGREE II Instrument

Created with the AGREE II Online Guideline Appraisal Tool.

No endorsement of the content of this document by the AGREE Research Trust should be implied.

Co-ordinator: Marcia Miller

Date: 28 February 2021

URL of this appraisal: <http://www.agreetrust.org/group-appraisal/14157>

Appendix F: Panelist Results

Domain 1	Domain 2	Domain 3	Domain 4	Domain 5	Domain 6	OA 1	OA 2
98%	74%	83%	98%	76%	45%	89%	Yes - 2, Yes with modifications - 1, No - 0

Domain 1: Scope and Purpose			
	Appraiser 2	Appraiser 1	Appraiser 5
Item 1	7	6	7
Item 2	7	7	7
Item 3	7	7	7
Domain 2: Stakeholder Independence			
	Appraiser 2	Appraiser 1	Appraiser 5
Item 4	6	1	5
Item 5	7	6	5
Item 6	7	5	7
Domain 3: Rigour of Development			
	Appraiser 2	Appraiser 1	Appraiser 5
Item 7	6	2	7
Item 8	7	1	7
Item 9	7	6	3
Item 10	7	1	7
Item 11	7	6	7
Item 12	7	7	7
Item 13	7	7	4
Item 14	7	7	7
Domain 4: Clarity of Presentation			
	Appraiser 2	Appraiser 1	Appraiser 5
Item 15	7	7	7
Item 16	7	6	7
Item 17	7	7	7
Domain 5: Applicability			
	Appraiser 2	Appraiser 1	Appraiser 5
Item 18	7	1	5
Item 19	7	5	7
Item 20	7	3	7
Item 21	7	6	4
Domain 6: Editorial Independence			
	Appraiser 2	Appraiser 1	Appraiser 5
Item 22	7	1	4
Item 23	7	1	4
Overall Assessment			
OA1	7	5	7

Domain 1. Scope and Purpose

Item 1

- Appraiser 1: There is a statement that reads \"This guideline is to be used to educate patients...\"
 - found in the mid body of the practice guideline document which speaks to the purpose of the practice guideline. However, having the purpose statement/objective placed at the outset in a clearly labelled section makes it easier to find in the guideline.

Domain 2. Stakeholder Involvement

Item 4

- Appraiser 1: There is no description as to the specific development of the practice guideline or those individuals who were involved or contributed to its development so far.

Item 5

- Appraiser 1: The literature review provided some context as to the type of information gathered from different research articles pertaining to patient experiences with various cancers.

Item 6

- Appraiser 1: The target user is very narrow. Could this guideline be used by other health care professionals other than community nurses? If so, these users could be included as well. Think usability.
 - This was addressed in the Purpose Statement that was added in the revisions.

Domain 3. Rigour of Development

Item 7

- Appraiser 1: Although the literature matrix provided evidence of different sources of information such as from systematic reviews, meta analysis, longitudinal studies, etc., there is no information available as to the methods or strategies used to search for evidence to answer the research question.
 - The list of sources provides the literature used in the development of the CPCEG

Item 8

- Appraiser 2: Criteria well developed
- Appraiser 1: No information was available about the selection criteria.

Item 10

- Appraiser 1: No information available about the development and finalization of the guideline recommendations

Item 13

- Appraiser 5: Not at this time as this may be a future publication.

Domain 4. Clarity of Presentation**Item 16**

- Appraiser 1: Patient education and self examination

Domain 5. Applicability**Item 18**

- Appraiser 2: Excellent evidence to relate the quasi experimental study to the literature review.
- Appraiser 1: There is a statement regarding barriers, however, there is no mention of specific barriers or facilitators for the uptake of this guideline.
 - There are currently no identified barriers, but if they occur, they should be addressed at the time of identification.

Item 19

- Appraiser 1: There is information on the procedure to use when utilizing the guideline. It would be beneficial to link this information to the recommendations section. The section on \"How do you perform a self-exam of the neck?\" could be provided to the patient as a leaflet to take home as well.
 - The “How to” page will be available as a handout.

Item 20

- Appraiser 1: No mention of the resources that would be needed to have this guideline implemented.
 - The guideline will be the only resource the provider requires
 - A mirror and a glass of water are identified as tools needed to conduct the self exam.
- There is mention of the financial savings to the healthcare system

Item 21

- Appraiser 1: Information can be found in the \"What do you do now?\" section

Domain 6. Editorial Independence**Item 22**

- Appraiser 1: No information available about this.
- Appraiser 5: Non funded

Item 23

- Appraiser 1: No information available about this
- Appraiser 5: NA

Overall Assessment

- Appraiser 2: Unusual guideline topic that can be implemented efficiently.
- Appraiser 1: This guideline is useful and will help health professionals provide appropriate health teaching and assessment to patients with thyroid cancer. In addition, many patients will engage in self monitoring in order to improve their self efficacy and health outcomes related to thyroid cancer.
- Apart from the improvement needed in some domains, a review of the grammatical structuring of some sentences may also be warranted.

Appendix G: Clinical Practice Client Education Guideloiner for Early Detection of Thyroid Cancer (CPCEG)*

Purpose

To provide an standardized, evidence-based teaching tool for providers at all levels to use in teaching clients how to perform a self screening for thyroid cancer.

Procedure

- Education will start with the community nurse, during the initial assessment, with each patient.
- The nurse will:
 - explain what thyroid cancer is.
 - discuss the signs and symptoms of the thyroid cancer.
 - discuss potential causes of thyroid cancer.
 - discuss the benefits of a self-exam of the throat region.
 - educate patients on how to perform a self-exam of the neck region.
 - demonstrate a self-exam of the neck region.
 - allow for discussion or questions related to the procedure.
 - observe the patient perform a self-exam of the neck region.
 - answer questions and clarify information as needed.
 - have the patient sign the form and provide a copy to the patient for further reference.
- The community nurse will review information at every visit.

Question

What information does patient need to perform a self-exam of the neck region?

Target Population

All patients aged 45 years and older and those who are at higher risk of developing thyroid cancer because of risk factors such as exposure to radiation, family history, and decrease in iodine in the diet.

Recommendations

There is a lack of knowledge and available resources for community nurses to use to teach patients how to perform thyroid cancer self-exam for early detection of thyroid cancer.

- Wood et al. (2016) noted that early detection through self-exam, screening, and education has resulted in an increased number of cancer survivors.

- Fuhrer et al. (2016) concluded that a goiter is the cardinal symptom of most thyroid diseases and treatment is influenced by the evaluation of goiter size determined by manual palpation.
- The guideline will be a tool for all community nurses to use to educate their patients on how to perform a self-exam of the neck region.

Key Evidence

- In Canada 2020 tracking of TC confirmed
 - 8,600 people were diagnosed with thyroid cancer, and 230 will die
 - 2,300 men will be diagnosed and 110 will die;
 - 6,200 women will be diagnosed and 130 will die,
- Compared to United States
 - 44,280 new cases were diagnosed with thyroid cancer, and 2,200 will die.
 - 12,150 men will be diagnosed and 1,050 will die
 - 32,130 women will be diagnosed and 1,150 will die (American cancer Society, 2021).
- More than a 20% increase in the incidence since 1970 (Wirth & Shah, 2017).
- Incidences of morbidity and mortality from thyroid cancer, in recent decades, are trending upward, most noticeably in Asia and the U.S. (Lim et al., 2017).
- Patients who are knowledgeable about self-screening will be able to seek treatment earlier (Jeihooni & Rakhshani, 2019).
- Sosa et al. (2020) posited that patients with any risk factors such as family history, exposure to radiation at an early age and or inherited genetic syndromes should be taught how to perform self-exam of the neck region even if they are asymptomatic.

Guideline Monitoring

- The guideline should be reevaluated every five years or when new recommendations for early detection of thyroid cancer are published.
- Barriers to the application of this guideline should be addressed as they arise by the community nurses and before implementation.

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CPCEG for Client Education regarding Self-Exam of the Neck Area for Early

Detection of Thyroid Cancer

This guideline is to be used to educate patients about how to perform a self-exam of the neck region in relation to early detection of thyroid cancer in a non-bias manner so that they can engage in meaningful dialogue and seek early treatment for positive outcomes.

- What is thyroid cancer?
It is a cancer of the gland in the front of the neck that normally produces thyroid hormone which is important to the normal regulation of the metabolism of the body.
- Signs and Symptoms of Thyroid Cancer:
A lump in the neck, sometimes growing quickly
Swelling in the neck
Pain in the front of the neck, sometimes going up to the ears
Hoarseness or other voice changes that do not go away
Trouble swallowing
Trouble breathing
A constant cough that is not due to a cold
- Potential causes of thyroid cancer
Family history
Constant exposure to radiation as in cases of employees working in nuclear power plant
Radiation treatment for other cancers
Diet low in iodine
Gender: women have a higher risk of developing thyroid cancer
- What are the benefits of learning how to perform a self-exam?
Early detection leads to early treatments
Early treatment leads to a decrease in healthcare costs
Early treatment leads to improved health outcome
Increase patient knowledge

Patient Signature _____ Date

Witness Signature _____ Date

Sources

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How do you perform a self-exam of the neck?

- **Instruments (tools)**
 - **Handheld mirror**
 - **Glass of water**

Hold the mirror in your hand, focusing on the lower front of your neck, above the collarbones, and below the windpipe (larynx), which is the enlarged upper end of the trachea below the root of the tongue. Your thyroid gland is located in this area of your neck.

While focusing on this area in the mirror, tip your head back.

Take a drink of water and swallow.

As you swallow, look at your neck.

Check for any bulges or protrusions in this area when you swallow.

Remember: Do not confuse the Adam's apple with the thyroid gland, which is located further down on your neck, closer to the collarbone. You may want to repeat this step several times.

What do you do now?

If you do see any bulges or protrusions in this area:

See your medical provider.

You could have an enlarged thyroid gland or a nodule/lump that should be checked to determine whether further evaluation is needed.

It is recommended that you repeat this thyroid self-exam every month.

